

FORMING OF CLOSE THIN TRENCHES

ABSTRACT

5 A method for forming narrow trenches in a silicon substrate, comprising the steps of: etching the substrate to form first trenches separated by first silicon ribs; performing a thermal oxidation of the substrate to form a silicon oxide layer around the substrate, to obtain second trenches and second silicon ribs; filling the second trenches with fingers of an etchable material; etching the oxide down to the upper surface of the second ribs while keeping oxide portions between said material fingers and the second ribs; etching away the second silicon ribs and said material fingers; etching the oxide to expose the substrate at the bottom of the oxide portions, while keeping oxide fingers; and etching the substrate between the oxide fingers to form narrow trenches in the substrate.